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AMENDMENT TO THE CLAIMS

Please amend the claims as indicated below.

1 - 28. (Canceled)

29. (Currently amended) A system for performing time-domain equalization, the system comprising:

a beamsplitter configured to split a first optical signal comprising a light pulse into a plurality of beams;

a delay component optically coupled to the beamsplitter, the delay component configured to generate a delayed first beam by providing a first delay to a first beam in the plurality of beams and generate a delayed second beam by providing a second delay to a second beam in the plurality of beams;

a birefringent component configured to receive the delayed first beam and the delayed second beam from the delay component and operable to optically scale the delayed first and second beams by providing a first rotation of a polarization plane of the first beam and a second rotation of a polarization plane of the second beam;

a walk-off crystal configured to split each of the optically scaled first and second beams into a first and a second pair of beams; ~~and~~

an array of photodetectors comprising a first and a second pair of photodetectors configured to receive the first and the second pair of beams respectively and generate therefrom a first and a second electrical component of an electrical signal that corresponds to the input optical signal after time-domain equalization; and

a control system configured to control the birefringent component for optically scaling the delayed first and second beams, wherein the control system generates coefficients used to perform time-domain equalization for approximating an ideal pulse shape.

30 - 31. (Canceled)

32. (Currently amended) The system of claim ~~31~~ 29, wherein the control system further uses an algorithm to minimize a mean square error between the light pulse and an idealized light pulse.